

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

SOININEN et al.

Conf. No. 8609

Application No.: 09/980,781

Group Art Unit: 2683

Filing Date: December 6, 2001

Examiner: Rampuria, Sharad K.

Title: SELECTION OF MOBILITY AGENT IN ACCESS NETWORK

\* \* \* \* \*

DECLARATION UNDER RULE 131

**RECEIVED**

SEP 03 2004

Technology Center 2600

Commissioner for Patents  
P.O.Box 1450  
Alexandria, VA 22313-1450

Sir:

We, Ahti Muuronen and Jonne Soininen, hereby attest as follows:

We conceived of:

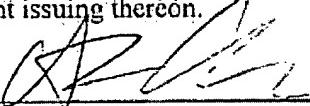
- the claimed method of indicating a macro mobility entity in an access system comprising a plurality of mobile stations, access nodes, and at least one mobility entity arranged to provide macro mobility management services to the mobile stations while registered to the access system, said method comprising initiating an attach procedure to one of said access nodes by a mobile station, reacting to said mobile station having IP capability by initiating at said access node a selection of a macro mobility entity for said mobile station, and sending the identity of said selected macro mobility entity to said mobile station in association with an access context establishment;
- the claimed packet access system, comprising a plurality of mobile stations, at least some of said mobile stations supporting macro layer mobility, access nodes, at least one mobility entity arranged to provide macro mobility management services, said access nodes being responsive to said mobile station having the macro mobility capability to initiate a selection of a macro mobility entity for said mobile station, and send an identity of said selected macro mobility entity to said mobile station; and
- the claimed access node for a packet access system comprising a plurality of mobile stations, at least some of said mobile stations supporting macro mobility, access nodes serving said mobile stations within respective parts of the packet access system, and at least two macro mobility entities being arranged to provide macro mobility management services to the mobile stations while registered to the access system, said access node comprising means, responsive to said mobile station having the macro mobility capability, for selecting at said access node a macro mobility entity for said

mobile station, and for sending an identity of said selected macro mobility entity to said mobile station in association with an access context establishment, (which is the claimed invention) in Finland prior to March 18, 1999. During the period before March 18, 1999, we documented the conception of the claimed invention by completing the attached invention report and signed that invention report on March 18, 1998. This invention report was submitted by us to our employer, Nokia Corporation in Finland.

Over the next month three months, we communicated and worked in cooperation with personnel at the patent firm Kolster Oy AB (in Finland) and participated in the patent application drafting process by reviewing the patent application draft. As a result of this diligence on our parts, the Finnish patent application (FI1991297; the earliest priority application for the present application) was filed less than three months later, on June 7, 1997.

All statements made of our knowledge are true, and all statements made on information and belief are believed to be true. We acknowledge that willful false statements and the like are punishable by fine, imprisonment, or both, under 18 U.S.C. §1001 and may jeopardize the validity of the application or any patent issuing thereon.

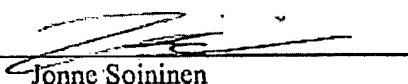
By:

  
Ahti Muhonen

Date:

23/08/2004

By:

  
Jonne Soininen

Date:

24/08/2004

**NOKIA**

## INVENTION REPORT

**CONFIDENTIAL**

Opinion report  
Communication to inventor

File copy A  
 Inventors copy B  
COPY accepted \_\_\_ / \_\_\_ 19  
COPY accepted \_\_\_ / \_\_\_ 19

2

## INVENTION REPORT RECEIVED

Code: 14760 Company: MS6 Department:

Place and date: Helsinki 19.3.2004

Signature: *Aki Nieminen*

3

## OPINIONS

(Yes = 1, maybe = 2, no = 3)

## Technical level

- new
- practicable
- patentable

## Development level

- ready for protecting
- development work continues
- idea worthy of development

## Marketing level

- highly valuable
- star product
- worthy of patenting

## Level of protection

- important to protect
- easy to defend
- difficult to evade

In my opinion the invention belongs to category \*)

I propose that the reported invention be

- reserved by the company
- left for the use of the inventor(s)

Place and date:

Signature:

RECEIVED

SEP 03 2004

Technology Center 2600

Title of invention:

MIP Advertisement

Inventor(s), profession:

Ahti Muhonen (NTC), Jonne Soininen (NTC)

Home address:

Short description of invention:

See enclosure

In my opinion the invention belongs to category: \*)  
(Not necessary to fill in)

Enclosures:

The invention becomes public: 30 / 4 1999

I/we consider the invention to belong to the category indicated above and to my/our best knowledge, I am/we are the sole/and original inventor(s) of this invention.

The company may, by virtue of the valid legislation, be entitled to full or partial right to the invention. I/we acknowledge my/our obligation to sign as inventor(s) all documents that may be required for protecting the invention in different countries.

Signature of inventor(s):

Date 18 / 3 1999

Signature *Aki Nieminen*

5  
ACKNOWLEDGE RECEIPT OF THE COMPANY'S DECISION REGARDING THE INVENTION INDICATED ABOVE

Signature of inventor(s):

Date / 19

Signature of inventor(s):

## REPLY TO THE INVENTOR(S)

I make it known hereby that the company has decided to:

- reserve the invention for the company
- reserve the right to use the invention
- allow the inventor(s) the liberty for independent action
- issue the enclosed statement
- keep the invention secret
- apply for a patent on the invention
- refrain from applying for a patent on the invention
- postpone the decision about applying for a patent

The invention belongs to category \*)

If dissatisfied with this decision, the inventor(s) may appeal within 30 days to the Board of the company.

Announcement reward:

Place and date:

Signature:

**Invention Report**

Title: MIP Advertisement.

NC Code:

Date printed: 19.03.1999

Date written: 18. March 1999

Version: v1.0

Related to: Mobile IP integration to UMTS (Step 1 & Step 2 of 23.20)

Inventor: Ahti Muhonen, NTC Jonne Soininen, NTC

Background: Mobile IP support for UMTS Packet-Switched network is introduced in the 23.20 specification. The correct GGSN with a FA has to be found and a PDP Context has to be activated to it.

Problem: The problem is to know if the SGSN has a GGSN that has Foreign Agent (FA) capabilities and to open a PDP address to the correct one. This solution gives a generic solution for discovering the FA. This solution also prevents the MS from trying to open a PDP Context to a FA, when there is not one present.

Solution: When the MS does GPRS/UMTS Attach, the SGSN checks the Classmark of the MS. If the MS has Mobile IP capability, the SGSN send the MS a PDP Context Activation Request. The Activation Request includes the IP address of the FA and information that the address is an address of a FA.

Example: MS performs GPRS/UMTS Attach to a SGSN. The SGSN checks if the MS has Mobile IP capabilities and if it does, a PDP Context Activation Request is sent to the MS. The MS then performs the PDP Context Activation to the FA.

Implementation: The implementation of the Mobile IP capability check could be implemented to the classmark of the MS. This way the SGSN would be able to distinguish the Mobile IP capable MSs from the non-capables. In the PDP Context Activation Request would then be the FA information. The FA information could be implemented to the Request PDP Context Activation message [04:08 620 9.5.4] to the field Offered PDP Context Address. In the Offered PDP Context Address [04.08 10.5.6.4], are spare bits that could hold the information that the PDP Address is the address of a Mobile IP Foreign Agent.